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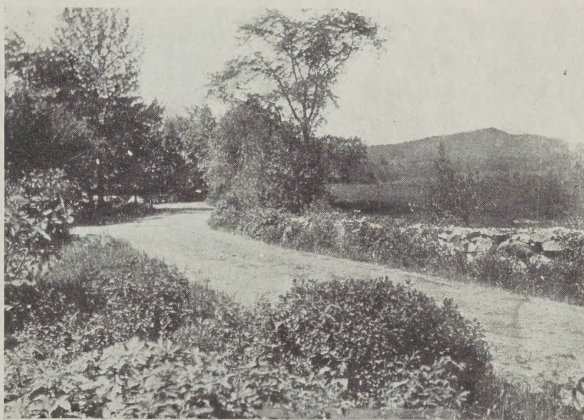
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The New York State College of Forestry
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SYRACUSE UNIVERSITY
HUGH P. BAKER, Dean
With the Co-operation of the New York State Motor Federation
GEORGE C. DONAHUE, Secretary

ROADSIDE TREES

Discussing Their Existing Conditions and Values and Recommending
Their Future Management For New York State.

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Professor of Landscape Extension.



Photograph from the Federal Road Office.
A PICTURESQUE ROADSIDE TREATMENT.

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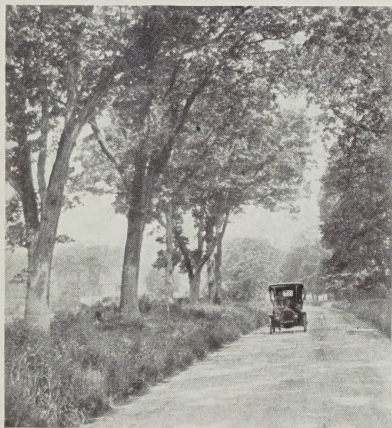
A Roadside Elm Near Pulaski, New York.

New York State has many roadside Elms. No other tree is so commonly seen along the improved highways. It thrives best in well-drained though moist soil.

ROADSIDE TREES

ROADSIDE TREES always have been a desirable asset to the highways of New York State. Long before the State Highway Commission was established laws were enacted to encourage the planting and to guarantee the preservation of trees along the highways. With the increased attention to the improvement of highways under State administration the desirability of roadside trees has been emphasized with greater strength than ever before.

The New York State College of Forestry at Syracuse, which has been designated by law as the Institution for educational work in forestry, has been impressed for several years with the importance of street tree planting and the culture of trees along the public highways. Shortly after its establishment the College made studies and investigations in shade tree matters, taking up the work from the broad, public standpoint. During this time opportunities have been presented and initiated to study the conditions under which trees could be maintained along the highways. After careful consideration of the subject, the value of trees along highways has been estimated from all the prominent aspects, namely, economic, scenic and civic.



White Oaks. Long Island Roadside, Farmingdale.

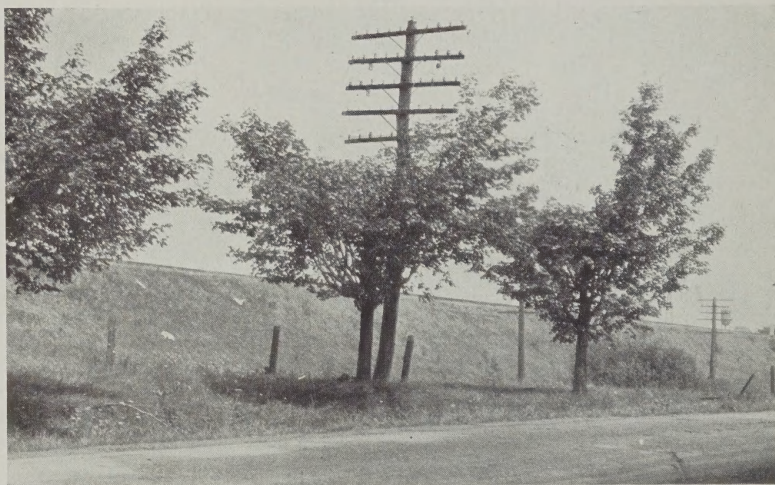
The White Oak is one of the large native trees with a deep, penetrating root-system, which makes it especially desirable for planting along roads bordered with valuable agricultural land. The soil quite near the base of the trees may be used for farm crops, which might not be the case where American Elms and other shallow rooted trees are growing.

At the present time, when the matter of the regulation of roadside tree conditions along the State highways is up for the consideration of the people, the College believes it will be fulfilling the function for which it was established, in presenting in a popular, concise manner the

results of its studies and investigations. With an idea of these results the citizens of the State may find it easier to act intelligently in formulating methods of tree culture along the State highways. The object of this circular will be to show the general condition of roadsides, to develop a system of tree culture that will satisfy the diverse uses of the highways and adjacent territory, and to point to a method of maintaining a character of tree growth that will be consistent with the excellent system of State highways for which the Empire State is justly famous.

EXISTING ROADSIDE TREE CONDITIONS

In a system of public highways as extensive as is found in New York State, comprising, as it does, about 80,000 miles, every conceivable condition of roadsides is exhibited. These conditions will vary from the strictly agricultural where the roadside is used for growing crops to that of the dense forest condition resulting from the abandonment of the roadside to a wholly natural development. Between these two extremes there are the roadsides with avenues of trees resembling the



Photograph by the Author.

Badly Damaged Roadside Trees, Oneida, New York.

The overhead wire problem is the most serious obstacle in development of roadside trees. The proper public uses of the highways demand first consideration for the trees.

city streets and others with naturalistic groupings of trees and shrubbery, exhibiting the scenery of the countryside in a highly delightful manner.

But taking the roadside tree conditions as a state-wide proposition it is entirely fair to say that it is the result of hap-hazard development with more trees than are desirable along some sections and with no trees at all where the presence of trees would be decidedly beneficial to the best uses of the roads of the State.



Storm-Swept Roadside Sugar Maple, Chittenango, New York.

Roadside trees become decrepit through attacks of insect and disease enemies. They are subject to further damage during wind storms.

The Care of Roadside Trees has been neglected.

In addition to the quantity and distribution of trees along the public highways something ought to be said as to their quality. Roadside trees, wherever they have been planted or have naturally sprung up, have been invariably neglected. The law permits the use of the wood from roadside trees for road and bridge repair; it enforces the removal of parts of trees which interfere with the proper uses of the highways. Thus far, it has not been legally mandatory to maintain roadside trees in the most healthful manner possible.

The natural difficulties against which trees have had to struggle, have been supplemented by an obstacle to tree growth through the countless numbers of overhead telephone wires which have been erected along the public highways. In many cases both sides of the roadway have been used for the lines of telephone poles. In making ample room for their wires, the employees of telephone companies have not always exercised the best principles of tree pruning. In their operations they have not had a deep interest in the welfare of roadside trees. The result is that many trees have been badly damaged.



Photograph by the Author.

Silver Maples Near Rochester, New York.

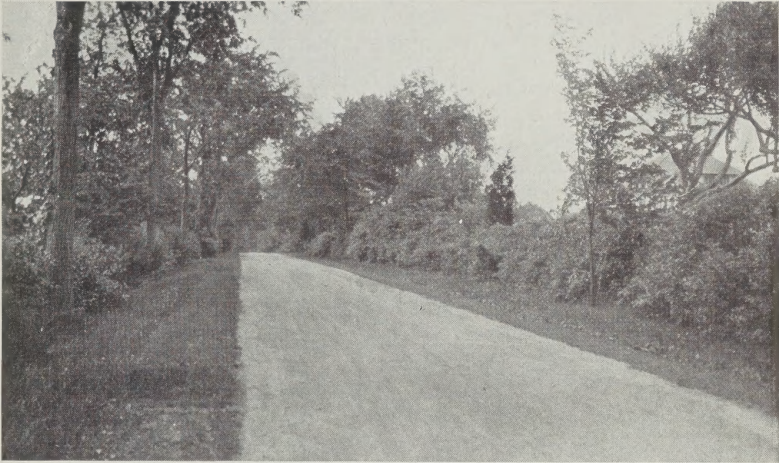
This shows the result of a few trees planted by a land owner who has taken pride in the appearance of his property. The land on either side of the road is valuable for agricultural use and the wide spacing of the trees permits the intensive working of the soil.

Many factors cause damage.

Roadside trees are constantly subject to damage by the action of storms, through the depredations of insects and by the decaying influences of tree diseases. All of these forms of damage require attention to prevent the trees from becoming decrepit and a source of danger to the people who use the highways. The preservation of roadside trees is a matter of eternal vigilance and where this attention is not given the condition of the trees reflect the need of care.

VALUE OF ROADSIDE TREES

When a person attempts to point out the value of trees along public highways the task is indeed a broad one. The values are so large and many and change with the different conditions that their full value is most likely to be discounted. With this point in mind, however, we may begin to enumerate the merits that commend trees as a part of the



Photograph by the Author.

Tree and Shrub Bordered Road near Poughkeepsie, New York

Shrubs may sometimes be used in addition to trees for roadside treatment. Native material is always the best.

proper highway features. These values may be briefly summarized as follows:

1. Roadside trees enhance the value of adjacent land on account of increased attractiveness.
2. Roadside trees protect the roadbed, shelter and shade the roadway and render it otherwise more and more usable as a means for travel and traffic.
3. Roadside trees may serve as a source of food when nut bearing, fruit and sugar maple trees are used for planting.
4. Belts of roadside trees may serve as wind breaks, preventing the drifting of snow within the highway and sheltering fields and farm buildings from wintry winds.

5. Roadside trees tend to cool and purify the air.
6. Roadside trees attract and harbor birds thus assisting agriculture.
7. Roadside trees prevent erosion on sloping banks.
8. Roadside trees invite tourists to travel over the highway and increase the pride of the people.
9. Roadside trees prolong the life of an improved highway by protecting the roadbed from the intense heat of the summer sun.
10. Roadside trees may be grouped and arranged so as to exhibit to the best advantage the most delightful scenery of the countryside.

New York State with its comprehensive network of improved public highways and its extensive variety of scenery offers vast possibilities for roadside tree planting and preservation. The thousands of good trees now found should be carefully guarded and improved while the millions of additional trees are being planted.



Photograph by the Author.

A Closed Type of Roadside Treatment.

A portion of State highway between Syracuse and Skaneateles in Central New York, where the woodland on one side and the fringe of trees and shrubbery on the other side of the road furnishes a good example of the "Closed type of roadsides." The scenic interest of such a roadway as this is increased by frequent openings in the roadside plantations through which glimpses of the countryside may be secured.

PLANTING AND CARE OF ROADSIDE TREES

In many states, notably in Massachusetts, the planting and care of roadside trees is included as a part of the general program of the improvement of public highways. The Massachusetts Highway Commission considered the planting along State highways as early as 1894. In the following year this commission was directed to plant trees along roadsides where feasible. After extensive studies, Massachusetts began in earnest in 1904 on a system of roadside tree planting. In that year nearly 4000 trees were planted at a cost of \$1.14 per tree. This work is being continued every year throughout the State.



Photograph by the Author.

Trees in Groups by the Roadside, Cazanovia, New York.

This illustrates the way in which both evergreen and deciduous trees may be planted by the side of the road in groups with sufficient open roadside to permit views of the surrounding landscape.

It is quite evident to anyone who studies the matter of roadside trees that their planting and care can not be left to the work of private parties and in the end secure for the public highways the proper treatment of the roadsides. The matter of roadside development is as much a public enterprise as is the improvement of the roadbed and its maintenance. Plans for planting trees along roadsides should be included in any highway improvement project. These plans should be as carefully considered and as thoughtfully prepared as the plans for the engineering, and treatment of the highways.

Specialists are Needed for Tree Work.

The planting and care of highway trees being a specialized subject requires the services of specialists in this line. The placing of rows of trees along roadways in city street tree fashion might be as fatal to the proper development of a certain character of roadside as the omission of trees entirely. The nature of roadside treatment is determined by the public uses of the highway, the private development of the countryside and the nature of both the highway and the adjacent territory.

Highway Roadside Trees Under Management of State Highway Commission.

The trend of modern public road management shows that greater attention is being given, from year to year, to the roadsides as a part of regular highway development. In New York State some equipment is now being furnished along the roadsides. The most frequent form of roadside work is the placing of guide boards and mile posts. The next form of treatment could well be that of roadside trees.

Any roadside feature having permanent value will perform its highest service when it is coordinated with all other features. In this way, roadside treatment will meet, in the most practical manner, the public uses which the highways are intended to serve. In some cases roadside trees would be only incidental to the general features of roadside development. In other cases trees would share about evenly in claims for a place with other roadside uses. Many conditions will be found in which trees would be the exclusive feature along the roadside. All of these cases would be properly satisfied by a fair judgment of trees in relation to the public uses of the highway and the treatment of roadsides.

Tree Work is Properly a Function of Highway Commission.

After a system of tree treatment has been devised the next step is to put this system into operation. This work would naturally come under the management of the Highway Commission. Likewise the care of roadsides and maintenance of all features, especially the trees, could be economically handled by the Commission charged with the maintenance of the highways.

The logical conclusion in the matter of securing and preserving roadside trees indicates that all operations involved in management should be placed in the hands of the State Highway Commission.

NEED OF TRAINED HIGHWAY TREE WARDEN

The work of the State Highway Commission has demanded the services of a large number of specialists. The distinct lines of work are performed by men trained especially for those fields of service. Through this organization of work the results which are sought, namely, the improvement and maintenance of public highways, are obtained in a highly efficient manner.

Roadside tree treatment, both in planting and preservation, is a specialized line of work. It needs the services of a specialist in this field. This sort of specialist is developed through training in forestry with special study in landscape engineering.

Some idea may be obtained of the importance of a trained tree warden for the highway commission by a brief outline of the procedure in developing planting plans for roadsides. In this work it is quite evident that no simple rules can be established for statewide application. Every section of roadside will require special study and the preparation of planting plans to meet existing conditions.



Photograph by the Author.

Naturally Developed, Picturesque Roadside near Peekskill, New York.

In the waste places along the country highways, where there are outcrops of rocks and where small parcels of land are neglected, there often develop thickets of vegetation that give the roadsides a pleasing, picturesque appearance.

A Basis for Roadside Tree Planting.

The information that would be secured as a basis for planting plans in roadside treatment may be summarized thus:

1. Existing trees, their size, kind, character and general value.
2. Soil conditions; whether or not the original top soil has been removed.
3. Location, extent and permanency of overhead wires and poles.
4. Width of roadside from edge of pavement to fence line.
5. The present utilization of the land adjacent to the roadside.
6. Character of countryside and direction and extent of exterior views, vistas and special objects of interest.
7. The direction and intensity of prevailing winds.
8. The native flora as found in the nearby vicinity.
9. The insects that are prevalent in the locality.
10. The presence of roadside trees as effecting the use of the highway for traffic purposes.



Park Treatment of Roadsides.

When roadways have borders of considerable width and provisions for maintenance are ample, a park-like treatment may be given to the roadsides.

Roadside Tree Preservation is highly important.

In the vast system of highways of New York State there are countless roadside trees that require immediate attention to preserve them. All roadside trees demand some care from time to time. The technical details involved in tree preservation properly fall to the trained tree warden. It does not seem necessary to outline other lines of service

which a highway tree warden would perform as his regular duties. The need for a specialist of this type is evident to all who examine the roadside tree conditions in any part of the State.

PRESENT SHADE TREE LAWS IN NEW YORK STATE AS RELATING TO HIGHWAYS

As early as 1863 legal provisions were made for the planting of trees along highways. In 1869 encouragement in planting shade trees along the sides of public highways was given by an abatement in highway taxes for setting trees. The next important steps were taken in 1875 and 1877 when acts were passed to prevent shade tree mutilation and the defacement of natural scenery. In 1881 the State went so far in enacting tree laws as to provide the Commissioner of Highways with power to order property owners to plant trees along highways at their own expense. Since that time there has been no enactment of laws with special emphasis on roadside tree planting.

The conclusion that must be drawn from the enactment of laws and the court decisions in cases of roadside tree destruction is that the planting and preservation of roadside trees is a proper public use of the highways.



Photograph by the Author.

Roadside Trough With Background of Cedars, Cazenovia, N.Y.

An admirable example of a useful roadside accessory attractively exhibited with a background of American Arbor Vitae.

A BILL TO PROVIDE FOR THE PLANTING AND CARE OF SHRUBS, TREES, AND VINES ON THE STATE HIGHWAYS.

A bill was introduced in the Legislature of this State on January 31, 1919, by Assemblyman Martin, known as Assembly Bill No. 405, which provides for such highway planting as has been described in this circular. It reads:

AN ACT

To amend the highway law, in relation to the planting and maintenance of trees and shrubs along state highways, and making appropriations therefor.

The people of the State of New York, represented in Senate and Assembly, do enact as follows:

Section 1. Chapter thirty of the laws of nineteen hundred and nine, entitled "An act relating to highways, constituting chapter twenty-five of the consolidated laws," is hereby amended by inserting therein at the end of article two a new section, to be section twenty-six, to read as follows:

§ 26. Trees and shrubs on state highways; tree warden. The commissioner of highways shall appoint, and may at pleasure remove, an officer to be known as the tree warden of highways, and may fix his compensation within the amount appropriated therefor. A person so appointed shall be a forester who shall have had scientific training and practical experience along the lines of landscape engineering. He shall report annually to the commissioner, and his report shall be included in the report of the commissioner to the legislature. It shall be his duty to plant, maintain and protect the trees, shrubs and other plantings on state highways. Whenever moneys are appropriated for carrying on such work, such warden shall expend therefor in any county a sum of money equal to that appropriated by the board of supervisors of such county for the same purpose. Moneys so appropriated by a board of supervisors shall be made available for expenditure by such warden, provided, however, that the state commissioner of highways may limit the amount to be contributed by the state for such work in any county.

§ 2. The following amounts, or so much thereof as may be necessary for the objects and purposes of the specific appropriation are hereby appropriated:

The sum of ten thousand dollars (\$10,000), for carrying out the provisions of section twenty-six of the highway laws, as added by this act, generally.

The sum of ten thousand dollars (\$10,000), for an initial demonstration planting for the unit of the state highway between the cities of Syracuse and Utica; such demonstration planting to be under the direct supervision of the state tree warden and state commissioner of highways, and to be according to a detailed planting plan to be furnished by the New York State College of Forestry.

§ 3. The moneys appropriated by this act shall be paid out by the state treasurer on the warrant of the comptroller upon vouchers approved by the state commissioner of highways and the state tree warden. The moneys hereby appropriated are in addition to any other sum appropriated for state highway purposes.

§ 4. This act shall take effect immediately.

In view of what has already been written in this circular concerning the needs of tree planting and preservation along the public highways of the State it seems that the above bill meets the present situation as satisfactorily as it can be met at the start.



Photograph from the Federal Road Office.

Roadside Birches Near Upper Saranac Inn, New York.

The characteristic local trees may sometimes be used to gain an individual effect in roadside treatment.

THE NEW YORK STATE COLLEGE OF FORESTRY

AT

SYRACUSE UNIVERSITY

Designated and supported by the State as the institution for educational and investigative work in forestry in New York.

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The College offers at the State Ranger School at Wanakena in the Adirondacks, one and two year courses in practical training leading to such positions as forest guard, forest ranger, forest estate manager and tree planting expert.

The State Forest Camp of from one to three months duration is held each summer on Cranberry Lake in the Western Adirondacks and is open to any man interested in the woods. This Camp offers a splendid opportunity for a summer of directed recreation along forestry lines. This summers experience offers unusual opportunity for young men to learn something of forestry so that they may decide as to whether to continue the training leading to the profession of forestry.

As a part of its state-wide educational work, the College offers illustrated addresses upon various phases of forestry to high schools, granges, men's and women's clubs and other organizations. The College offers also to make plans for the protection and management of woodlots and for the reforestation of cut-over and barren areas. Such plans are made where there is reasonable assurance that the work suggested by the College will be carried out.

The College invites correspondence at any time as to its educational work at Syracuse and Wanakena or thru the state. It is ready also to answer questions as to the protection and management of forests and woodlots, tree planting, forest insects, tree diseases, etc.